

Microeconomic Theoretical Framework and Empirical Testing Using Cross-Sectional

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Abstract---*This study suggests establishing a theoretical framework to explain the impact of institutional quality on public sector size across a panel of countries at varying levels of economic development. The study also suggests that the influence of institutional quality on public sector size may be investigated at a regional level. Persson and Tabellini's (1999) theoretical model of political competition was discussed earlier in the study, and it was also suggested that future research might extend the model to incorporate the influences of executive constraints on the ruling elite in both Presidential and Parliamentary forms of government. The study also finds limited evidence of a negative relationship existing between political competition and the size of the public sector. Regarding other existing theories of the determinants of the public sector size, the study finds international trade has a positive impact on public sector size whereas only estimation results from four-year moving averages data showed a positive relationship existing between country's per capita income and public sector size. The study strongly recommends that future work on the analysis of institutional quality and its impact on public sector size be carried out based on both a microeconomic theoretical framework and empirical testing using cross-sectional or time-series data.*

Keywords---*Government, System, Political, Economic development, Improvement*

1 Introduction

One of the major fallouts of the 2008-2010 global recessions has been the need to reduce the size of the public sector, whereby policymakers around the globe have launched programs to cut public sector size. So, in current times of austerity, it is critical to have another look at the variables affecting public sector size. The existing economic and political variables causing variations in the size of the public sector have attracted attention from both the theoretical and empirical sides of economics research. Shelton (2007) has categorized one-half of the existing theoretical models of public sector size as determinants of demand for the public services and the other half focusing on the determinants of supply of the public sector services. Rodrik's (1998) theoretical model of trade openness, Wagner's (1890) law of income, Alesina and Wacziarg's (1998) model of country size, and Easterly and Levine's (1997) model of ethnic fractionalization are models explaining the demand for public services. On the other hand Benabou's (1996) model of political rights, Persson and Tabellini's (1999) model of electoral rules, and Oates's (1972) model of fiscal federalism all explain the supply of public services.

In the above mentioned theoretical models of the public sector size, models that show the variations in public sector size via the channels of political institutions and electoral rules have recently become popular in the political economy literature. Persson and Tabellini (2003) show that the Presidential system of government has a smaller public sector size as compared to the parliamentary form of government. With the significance of the political intuitions in public sector size literature, one needs to check whether the political environment along with the apolitical variables is enough to explain the full picture of variations in public sector size.

The current study makes two contributions to the existing literature; firstly, it extends the political economy debate by investigating the impact of institutional quality on public sector size within the

framework of existing explanatory variables. The study builds the hypothesis of countries where institutional quality is higher. It will have a smaller public sector as compared to countries with weaker institutions. Using a panel data set of 88 developing and developed countries the results show a significant relationship between institutional quality and public sector size. The most significant advantage of looking at the overall institutional quality of countries in the context of public sector size as opposed to political determinants is because some states do not have any critical political institutions and thus it is essential to look at a broader picture to fully understand the dynamics of public sector size.

Secondly, the study adds to the existing literature by investigating the impact of political competition on the public sector size by employing an index of political competition as opposed to employing variables like the Presidential dummy variable or the number of votes won by the leading political party. In Persson and Tabellini's (1999) theoretical framework, the level of political competition was the "central insight" in explaining the variation in the size of the public sector. Using the index of political competitiveness provided by the Database of Political Institutions (DPI), the current study finds higher levels of political competition has a negative and significant impact on the size of the public sector.

The paper is organized as follows: after the introduction in section I, section II deals with the determinants of public sector size. Other factors influencing public sector size are discussed in section III. Section IV deals with data, and econometric techniques and section V elaborates on estimation results, and the final section concludes the study with relevant recommendations.

2 Determinants of Public Sector Size

There is a consensus in the existing literature of North's (1990) proposition on the importance of institutional quality to economic development. But the non-existence of a theoretical model in explaining the impact of institutional quality on public sector size did pose a considerable challenge to the current study in building a hypothesis that explains the effect of institutional quality on public sector size. Low levels of taxation, limited role of the government combined with the enforcement of contracts are essential determinants of economic development (La Porta et al. 1999). The economic and regulatory role of the government can only be acceptable if it adheres to the common constitutional framework. The International Country Risk Guide (ICRG) defines law and order as "an assessment of the strength and impartiality of the legal system". A strong legal system empowers the citizens of a country to punish politicians; the strength of the legal system puts limits on the behavior of ruling politicians and influential government bureaucrats. It also stops politicians from favoring certain groups regarding government contracts which can be indirect bribes paid out to consolidate and prolong their stay in power. With a weak legal system, politicians can prolong their stay in power and impose greater taxes on its citizens to fulfill their policies of discriminatory incentives. Padro-i-Miquel (2004) found that African politicians belonging to a specific ethnic group were able to substantially increase tax rates for other ethnic groups in a weak institutional environment. Thus, a well functioning legal system can put checks on the conduct of the ruling elite and also put checks on politicians' willful fiscal expenditures. Observance to the law can provide better protection of private property rights, intellectual property rights, and enforcement of contractual agreements which should have a positive impact on the size of the private sector and subsequently reduce the size of the public sector. The index of law and order drew from ICRG is used in the current study to proxy the strength of the legal system.

2.1 Prevalence and improvement of law.

In their analysis of corruption in various economies, Vishny and Shleifer (1993) highlighted two different types of corruption. Firstly, when the bribe is paid along with the required government fee to win import licenses and permits, this type of corruption does not lower the tax revenue of the government but only helps those who can afford to pay the necessary bribe. The second type of corruption is when only the required bribe is paid to a corrupt bureaucrat or politician, and no subsequent import license fee or permit fee is deposited in the government treasury. One form of corruption would not harm the tax revenues of

the government, but both should harm foreign inflows of capital and the efficiency of the private sector. The falling efficiency of the private sector would lead to greater intervention by the government, thus increasing the size of the public sector.

The existence of corruption can also influence different components of government expenditure as corrupt bureaucrats would be inclined to spend more on goods and services which carry the possibility of higher bribes as compared to goods where bribes would be non-existent. Mauro (1998) found educational expenditure to be a major causality of corruption as it was difficult to get heavy bribes from "textbooks or teachers' salaries". Military expenditure and investment in infrastructure would be major beneficiaries of government expenditure in a more corrupt country. For countries like the United States of America and Pakistan whose military expenditure is nearly 20% (WDI 2010) of total government expenditure, any increase in military expenditure would lead to an increased level of government expenditure. A high level of corruption can harm every facet of institutional quality, e.g. corruption can easily infiltrate the legal system of a country to offset any benefits that a good legal system can obtain; it can also adversely impact the process of democratic accountability. The index of corruption and an average of all ICRG political risk variables drawn from ICRG will be used to proxy corruption and institutional quality in estimation.

2.2 Prevalence of corruption and weak institutional quality.

The central insight of Persson and Tabellini's (1999) study was that political competition among politicians results in the more efficient outcome of government policies. In the environment of political competition, one set of politicians' promises cuts in taxes to gather the support of the electorate, whereas some politicians can promise to increase public spending to win votes and there might be some politicians who could promise both to win the competitive struggle of the ballot box. In a political, competitive world where one school of thought suggests the "decline of ideology", it can be difficult to hypothesize the impact of political competition on public policy. It can also be difficult to measure the level of political competition for estimation in a large panel data set. Database of Political Institutions (DPI 2009) provides a "legislative index of political competitiveness" for more than 150 countries from 1975 to 2009. The competitive index takes values of 1 to 7, where one is assigned to a country without an elected legislature and number 7 is assigned to the most competitively elected legislature. In the current panel data set, the majority of the countries are democracies, and the mean value of the political competition index is 6.273.

Two theoretical models of political behavior were outlined by Persson and Tabellini (1999) to explain the variations in the size of the government sector. In the "pre-election politics" model, it was assumed that politicians announce their policies before the election and well-informed voters elect a party of their choice. The difference in public policy under proportional and majoritarian election rules was analyzed in the pre-election model which predicted a smaller public sector under a majoritarian election rule. The prediction of a smaller public sector was centered on the assumption that under majoritarian elections political competition would be high as compared to proportional voting rule. In Persson and Tabellini's (1999) "post-election model" it was assumed that politicians design public policies after assuming office and politicians can only be held accountable for their history in future elections. In the post-election scenario, the study differentiated between Presidential and Parliamentary forms of government. It was hypothesized that political competition would be tougher and the size of the public sector be smaller under a Presidential system of government as opposed to a Parliamentary form of government. One explanation of the Presidential form of government could be tougher than the Parliamentary form of government is that the Presidential candidates faced political scrutiny in the entire country whereas the candidates in the Parliamentary form of government face political scrutiny in their respective constituency. Using a data set of 64 countries in total out of which 39 countries were classified as parliamentary democracies, and the remaining 25 were classified as Presidential democracies, Persson and Tabellini (1999) found a significant and negative impact of the Presidential system on the size of the public sector. The study only found weak evidence of majoritarian election rule to have had decreased the provision of public goods in the data set. The dependent variable was public sector size proxied by total

government expenditure as a share of GDP. The log of per capita income, international trade, the share of the population above 65, ethnic-fractionalization, and regional dummies were all used as independent variables in the OLS regressions by Persson and Tabellini (1999). Using a cross-sectional analysis of 20 OECD and 20 Latin-American countries, Milesi-Ferretti et al. (2002) found public spending was higher under the proportional voting system than in the majoritarian voting system.

Using two different measures of political competition for Canada from 1870 to 2000, Ferris et al. (2008) found political competition was the only significant political factor in affecting the size of the Canadian public sector. Using Johansen's (1995) cointegration test and error correction techniques for a substantially long time-series data, Ferris et al. (2008) also showed a low level of political competition increased the size of the public sector. Using a data set of 18 highly industrialized countries Cameron (1978) found a positive relationship between public sector size and the frequency of electoral competition. The effect of political competition was found to be negligible once Cameron (1978) took into account the ideological aspect of political parties in the estimated regressions.

2.3 Other Factors Influencing Public Sector Size

The relationship between international trade and free size was one of the five hypotheses investigated by Cameron (1978) for 18 highly industrialized capitalist economies from 1960 to 1975. The results showed that the expansion in the size of the public sector was primarily driven by exposure to international trade; Cameron (1978) results were built on the hypothesis that more open economies are highly industrialized. The heavy industrialization would lead to high-level unionization and a bigger scope for collective bargaining in the economy, leading to stronger labor confederations and many left-wing governments. The influences of strong labor unions and left-wing governments would lead to increased "spending for income supplements" thus increasing the size of the public sector as envisaged by Cameron (1978). The evidence provided by Cameron (1978) on a positive relationship existing between openness and public sector size was based on the idea of 18 highly industrialized countries having the presence of strong labor unions and ruling left-wing governments. The role played by labor unions in developed countries cannot find its parallels in the majority of the developing countries. For this reason, Cameron's (1978) results cannot be generalized for the world. The reduced number of countries in Cameron's study was one of the motivating factors for Rodrik (1998) to investigate the relationship between trade openness and public sector size for a 100 plus cross-sectional country sample. Based on a theoretical model that assumed public goods and private goods to be perfect substitutes and exports not consumed domestically while imported goods are not produced at home, Rodrik (1998) hypothesized that countries that are exposed to greater risk through international trade would have a larger level of public expenditure. Public consumption expenditure as a ratio of GDP from Penn World Tables (PWT) 5.6a was used to proxy public sector size and openness in the estimation was proxied by the sum of exports and imports as a ratio of GDP which was also obtained from PWT 5.6a by Rodrik's (1998) influential work. The simple cross-sectional OLS regressions employed in the seminal study provided evidence of a robust and positive relationship that existed between countries' openness and public sector consumption expenditure. Based on their central hypothesis that exposure to external risk was the driving force in increasing public expenditure, Rodrik's (1998) study included external terms of trade risk as an additional control variable in the main regressions. Including the terms of trade risk in the estimation, Rodrik (1998) found that international trade did not play any "independent effect" on public sector size and the impact was only coming through the channel of exposure to external risk.

Terms of trade externality and demand for insurance were the two key components of the theoretical model formulated by Epifani and Gancia (2009) to examine the relationship between the size of the public sector and openness. The first key hypothesis in their theoretical model was that international trade would lower the domestic cost of taxation and thereby increase the size of the public sector. The second key hypothesis of the model was that international trade would raise risk in the domestic economy, thus raising the demand for insurance at home and consequently increasing the volume of domestic public transfers. The key component of Epifani and Gancia (2009) theoretical model was the elasticity of

substitution between domestic and foreign goods. In their model countries with a higher degree of trade share and lower elasticity of substitution between foreign and domestic goods would have a larger size of the public sector as compared to countries with a higher elasticity of substitution between foreign and domestic goods. Using a cross-sectional analysis for 143 countries, Epifani and Gancia (2009) estimated that a 1.0 % increase in trade openness could increase the public share in GDP by 0.15 %. Political regime variable and degree of financial openness had an insignificant impact on public sector size in a cross-sectional analysis. Looking at the different evidence found by cross-sectional and time-series studies on the relationship between openness and public sector size, Benarroch and Pandey (2008) highlighted the importance of using panel data to investigate the impact of open economies on government size. Using five-year averages for a panel of 96 countries from 1970-2000 and employing a fixed-effects estimator, Benarroch and Pandey (2008) found no statistical significance between lagged trade openness and size of the public sector.

Existing literature also provides evidence that the positive relationship between international trade and public sector size can merely be driven by the size of the country Alesina and Wacziarg (1998). The hypothesis is based on the philosophy that larger countries would trade less internationally and they have relatively smaller public sectors due to the benefits of economies of scale. On the other hand, smaller countries would be relying heavily on international trade and thus more exposed to the risks highlighted by Rodrik (1998) and hence have larger public sectors. Alesina and Wacziarg (1998) provided both theoretical and empirical evidence of smaller countries having larger public sectors and would also be more liberal regarding international trade. Their theoretical model was based on the intuition that an increase in country size would lead to decreased per capita cost of government goods for a given level of government expenditure, whereby the reduced per capita cost of government goods would lead to increased consumption of privately produced goods. Employing cross-sectional OLS regressions on five-year averaged data ranging from 1960 to 1989, the study used the size of the population to proxy country size which had a negative and significant impact on government size. The negative effect of country size on public sector size was robust to the inclusion of various control variables such as per capita income, urbanization rate, population density, and regional dummies.

2.4 Data and Econometric Techniques

The basic aim of the study is to investigate the impact of economic, political, and institutional variables on the size of the public sector for countries from different regions of the world. With this goal in mind, the study uses annual panel data and 4-year moving averages data of 88 countries from 1984 to 2010. Annual data was also used by Ram (2009) to see the variations in the size of the government sector for a panel of 154 countries. The period chosen for the current study was primarily dictated by two factors. Firstly, the availability of ICRG data and secondly, to investigate factors that have affected public sector size in the pre-financial crisis period. Government Share of Real GDP per capita (RGDPL) taken from PWT 6.3 (summers and Heston, August 2009) is used to proxy public sector size and is used as the only dependent variable in the entire estimated regressions. Law and Order, and Corruption are the two institutional variables taken from ICRG's Political Risk Rating database. The rating consists of 12 different components covering both the social and political characteristics of individual countries. Law and Order component is divided into two equally weighted categories: firstly, the category of "Law" which judges a country on the strength of its legal framework and secondly, "Order" which reflects the level of adherence to the prevailing legal framework. The country with the lowest risk regarding law and order would get the maximum points of 6, and the country on the highest risk category would get zero points for law and order. The component of Corruption is scaled from zero to 6, where 6 points are awarded to the country with the least possible corruption in the political system, and zero points are given to a country with extreme corruption.

The component of democratic accountability is also scaled from zero to six; where 6 points are awarded to a country whose politicians are most "responsive" to the electorate and zero points are awarded

to a country where the ruling elite is completely autocratic. The "legislative index of electoral competitiveness" is taken from the Database of Political Institutions (DPI 2009); the index is scaled from 1 to 7. The legislative index takes the minimum number 1 which is awarded to a country with no legislature, and a maximum number of 7 is awarded to a country where the legislature is elected after the most competitive process. GDP per capita at 2000 US dollars, international trade as a ratio of GDP, total land area, total population, the urban population as a ratio of the total population, ratio of the population above 65 in total population, a dummy variable for Organization for Economic Co-operation and Development (OECD) countries and a dummy variable for Presidential form of government are used as additional independent control variables in estimation. The public sector size variable shows considerable variation as the minimum value of government share in GDP per capita is 3.89 % for Nigeria in 2003. For Nicaragua it was 53.25 % in 1987, these two figures reflect that some countries around the world provide a very limited role in the public sector. On the other hand, some countries of the world provide a major role in the public sector in an economic activity like Nicaragua in 1987. The variable of trade openness also shows considerable variations with a minimum value of 11 % as a share of GDP and a maximum value of 327% as a share of GDP.

Public sector size across countries is generally assumed to be changing very slowly, exhibiting persistence over time. To take into account the "great deal of inertia", Persson and Tabellini (2003b), Epifani and Gancia (2009), and Pickering and Rockey (2011) have suggested the use of lagged dependent variable as an additional explanatory variable to capture the dynamics of public sector size. Baltagi (2005) has recommended Blundell and Bond (1998) System GMM Estimator to be unbiased for a dynamic panel data set with a relatively large number of cross-sectional units and small periods. One of the advantages of the System GMM, as opposed to other dynamic panel estimators, is its ability to estimate variables that are time-invariant for example dummy variables for a regional location can be estimated and are of utmost importance to the current public sector size study. The Blundell and Bond (1998) estimator combines the regression in levels with the regression in differences, where the lagged differences of the corresponding variables make the instrument set for the regression in level, and the lagged levels of the variables are used as the instrument set for the regression in differences. The study uses a two-step GMM estimator as compared to the one-step GMM. To account for the downward bias of the two-step standard errors, a finite-sample correction procedure introduced by Windmeijer (2005) is employed on all two-step GMM estimations. Boubakri et al. (2009) have used the Blundell and Bond two-step, GMM estimator, under the Windmeijer (2005) corrected standard errors in investigating the relationship between privatization and emerging market sovereign bond spreads. Hassan et al. (2009) have also used the System GMM estimator with corrected standard errors to study the impact of institutional quality on economic growth for a panel of Chinese provinces.

The use of a dynamic panel estimator is not new to public sector size literature where Kimakova (2009) found financial openness increased government size in a panel data set of 87 countries using the Arellano-Bond dynamic panel estimator. Government share in GDP, Trade as a share of GDP, total population, GDP per capita, the share of the population above 65, land area, and share of the urban population are expressed in the logarithmic format in the entire set of regressions; the use of logarithmic format is consistent with Rodrik (1998). Thus the empirical model to be estimated by dynamic panel estimators is as follows:

$$\ln PS_{it} = \gamma_0 + \delta \ln PS_{it-1} + \beta \ln X_{it} + \mu_{it}$$

Where PS is an indicator of the public sector size, X is a vector explanatory variables namely international trade, per capita GDP, country size, population above 65 age, urban population, a measure of democracy, institutional quality and political competition causing variations in the size of the public sector and error term μ contains both time and country-specific effects. Public sector size and variables of institutional quality are perceived to be changing very slowly; therefore, the above equation one is estimated using both annual and 4-year moving averages data for the 88 country panel. As per the non-reliance on moving

averages data in the previous was primarily due to the non-availability of a theoretical model guiding the selection of the explanatory variables of private sector size.

3 Estimation Results

As was noted earlier, the presence of the lagged dependent variable leads to biased results from OLS, fixed effect, and random effects estimators. Therefore, Arellano-Bond (1998) dynamic panel estimator is used to estimate equation 1, and the results are reported in Table 1. The use of a dynamic panel estimator leads to significant variables in both annual and 4-year moving averages data. In the first column of Table 1, all explanatory variables other than the share of the elderly population are statistically significant. The coefficient of law and order is negative and significant at 1% level in column 1, reaffirming the main hypothesis of the study. A dummy variable for the Presidential form of government is positive and significant in the second column of Table 1. The coefficient of political competitiveness is negative and statistically significant in the third regressions where the variable gets included and is also significant at a 5% level in the 4-year moving averages data, thus lending limited evidence of a negative relationship between political competition and public sector size. Few worrisome issues are present in the results reported in Table 1: firstly, the failure to reject the null of first-order serial-correlation in the last four columns. Secondly, the validity of instruments Sargan test is also not passed in some of the estimated regressions, and finally, the OECD dummy variable is also dropped by the Arellano-Bond estimator due to multicollinearity. The failure to reject the null of first-order serial correlation in half of the results, the current study adopts the use of System GMM dynamic panel estimator in the remaining regressions.

System GMM dynamic panel estimator is thus used in the remaining regression wherein each table both annual data and the 4-year moving averages data are used for estimation. Table 2 reports the baseline regressions, the coefficient of law and order is negative and statistically significant in the first column, the existence of a negative relationship between institutional quality and public sector size gives further weight to the main hypothesis of the study. In the second column, the variable of political competitiveness is added to the regression where it has a negative but statistically insignificant impact on public sector size. The addition of the Presidential dummy in the third column did not alter the significance and sign of the institutional quality variable, but in itself, the Presidential dummy has a positive and significant influence on the dependent variable.

The variable of law and order is insignificant in the regressions where the democracy variable (polity2) is included as an additional explanatory variable in the fourth column of annual data estimations. In the four regressions of Table 2 using 4-year averages data produces insignificant results for an institutional quality variable but it consistently has a negative coefficient, providing some support to the main hypothesis of the study. The use of 4-year moving averages data lends greater support to the positive impact of trade openness and public sector size whereas there is also evidence of a positive relationship existing between country size and public sector size. The political competition index remains insignificant and negative with the use of moving averages data in the last three columns of Table 2. The Presidential dummy variable in the last column of Table 2 is negative and significant, implying a negative impact of the Presidential system on public sector size. The opposite results found in Table 2 for the Presidential dummy using annual and moving averages data raises concerns, but it is not investigated further as it does not alter the sign of the institutional quality variable. The three diagnostics test of the dynamic panel estimator reported in Table 1.3, namely first-order serial correlation, second-order serial correlation, and the Sargan test all pass with the required econometric benchmarks. Regression estimates of Table 1.3 have been repeated in Table 3 using the log of total land area to proxy the size of the country.

The results in Table 3 reaffirm the negative and significant impact of law and order on public sector size. Results of Table 3 to provide greater evidence in support of trade openness has a positive impact on the public sector, whereas other explanatory variables have similar results to the previous Table 2 where the total population was used as one of the explanatory variables. It is worth noting here that the entire set of regressions using annual data does not support the Wagner's (1890) hypothesis, but at the

same time, the use of averages data supports the hypothesis. Ram (1987) also found results that favored Wagner's (1890) hypothesis and the study also provided a detailed discussion on the country level studies that support Wagner's (1890) hypothesis.

4 Policy Recommendations

The study adopted the use of both annual and four-year moving averages to compare the results with existing work on public sector size like Ram (2009) who also employed annual and five year means data to investigate the determinants of public sector size. The use of annual and four moving averages data brings into limelight the debate on Wagner's (1890) hypothesis, with the current study finding contradictory results for the coefficient of per capita GDP. The conflicting results on the testing of Wagner's (1890) law have also been highlighted by Ram (1987). But regarding preference, the estimation results using annual data are preferred by the current study. Annual data for a panel of countries can capture greater variations existing in the data set rather than the use of averages which can remove some important variations of data needed to improve the identification of variables.

The economic recession caused by the banking crisis in the year 2008 coupled with an increased level of US public debt has brought the debate on public sector size at the forefront of public policy and adding insight to this debate, the current study suggests establishing a theoretical framework to explain the impact of institutional quality on public sector size across a panel of countries at varying levels of economic development. The study also suggests that the influence of institutional quality on public sector size may be investigated at a regional level, for example, South Asian countries or Sub-Saharan African countries that might be a good sample of countries to study the dynamics of public sector size considering the unique institutional characteristics these two regions have in the presence of powerful military bureaucracies. Persson and Tabellini's (1999) theoretical model of political competition was discussed earlier in the study, and it was also suggested that future research might extend the model to incorporate the influences of executive constraints on the ruling elite in both Presidential and Parliamentary forms of government.

5 Conclusion

The study also finds limited evidence of a negative relationship existing between political competition and the size of the public sector. The lack of political competition is currently evident in the USA where the presences of only two mainstream political parties have lead to the establishment of the Tea Party, the party that has vigorously opposed the elevation of the US debt ceiling. Regarding other existing theories of the determinants of the public sector size, the study finds international trade has a positive impact on public sector size whereas only estimation results from four-year moving averages data showed a positive relationship existing between country's per capita income and public sector size. The study strongly recommends that future work on the analysis of institutional quality and its impact on public sector size be carried out based on both a microeconomic theoretical framework and empirical testing using cross-sectional or time-series data. The study also suggests that future work may also like to split the data on a regional basis, like a study on Latin-American or African countries would be a nice starting point to look into the dynamics of public sector size and improvement of institutional quality.

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